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Yvonne Saugel (Trust)

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# CERCLA Integrated Site Assessment

SCREENED

FEB 20 1996

DJH



Illinois Environmental  
Protection Agency

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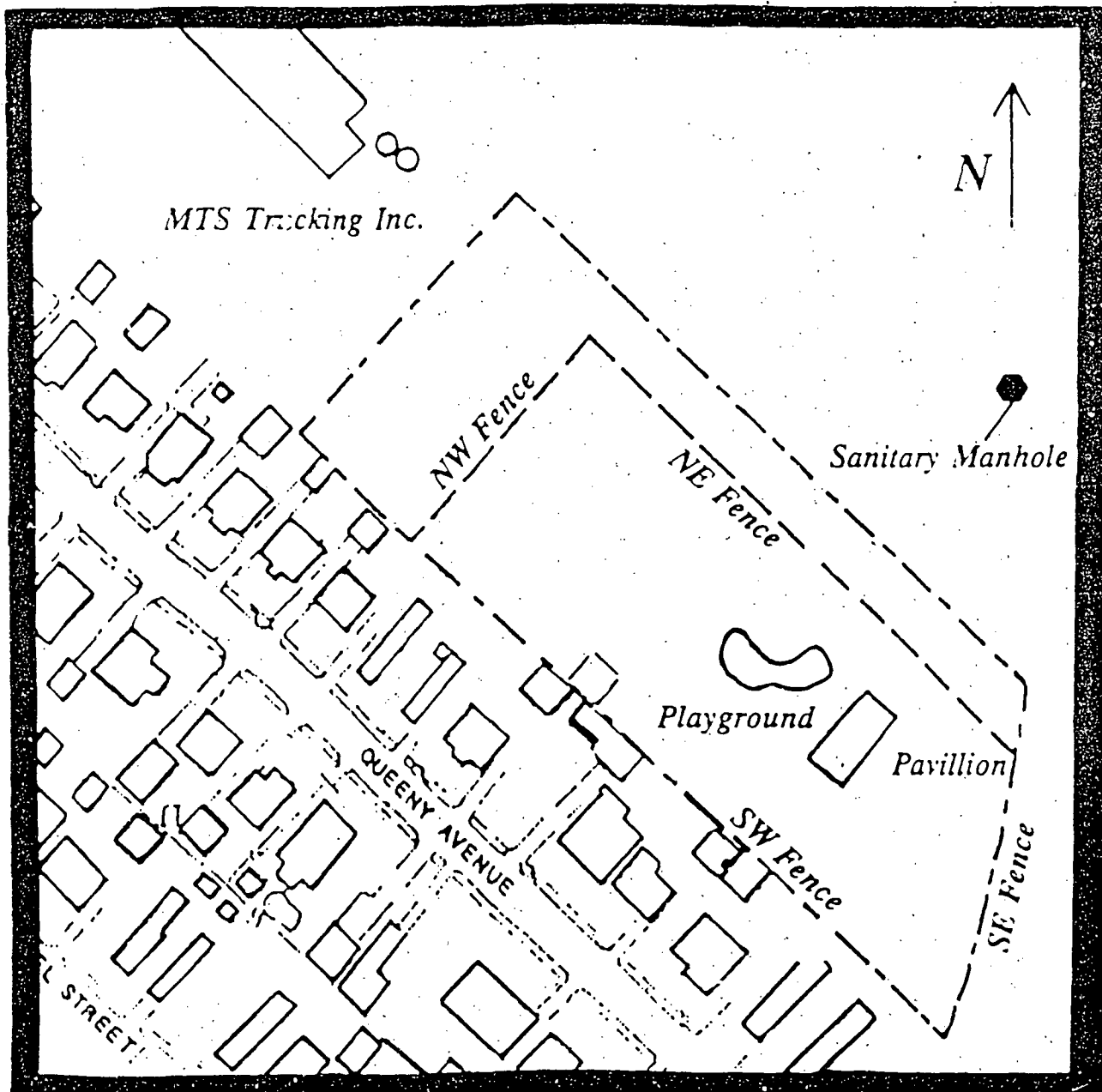
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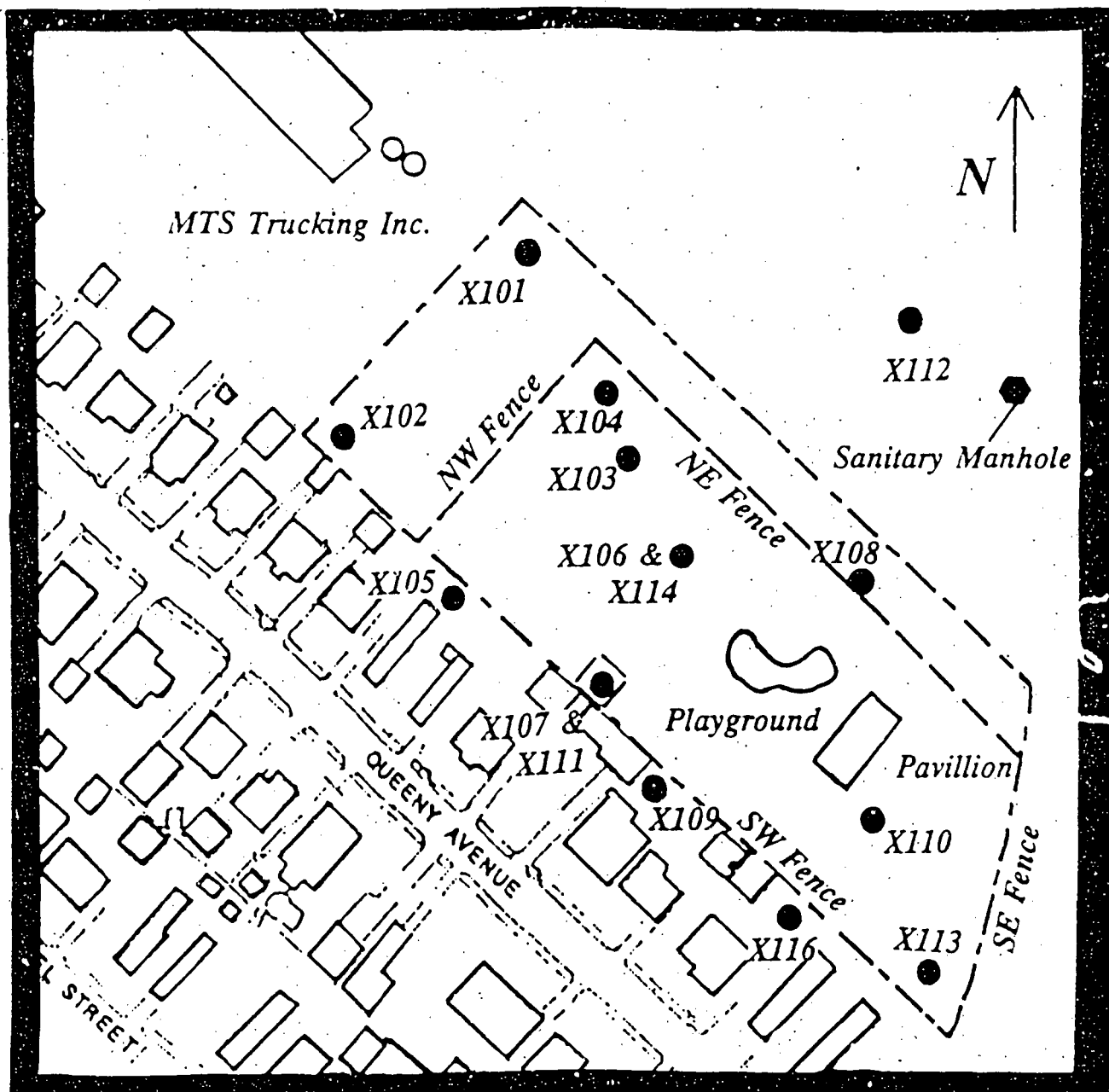


## YVONNE SAUGET (TRUST)

Not to Scale

Yvonne Sauget (Trust) Site ———  
 Village of Sauget Mini Park ———

Figure 2-2



# YVONNE SAUGET (TRUST)

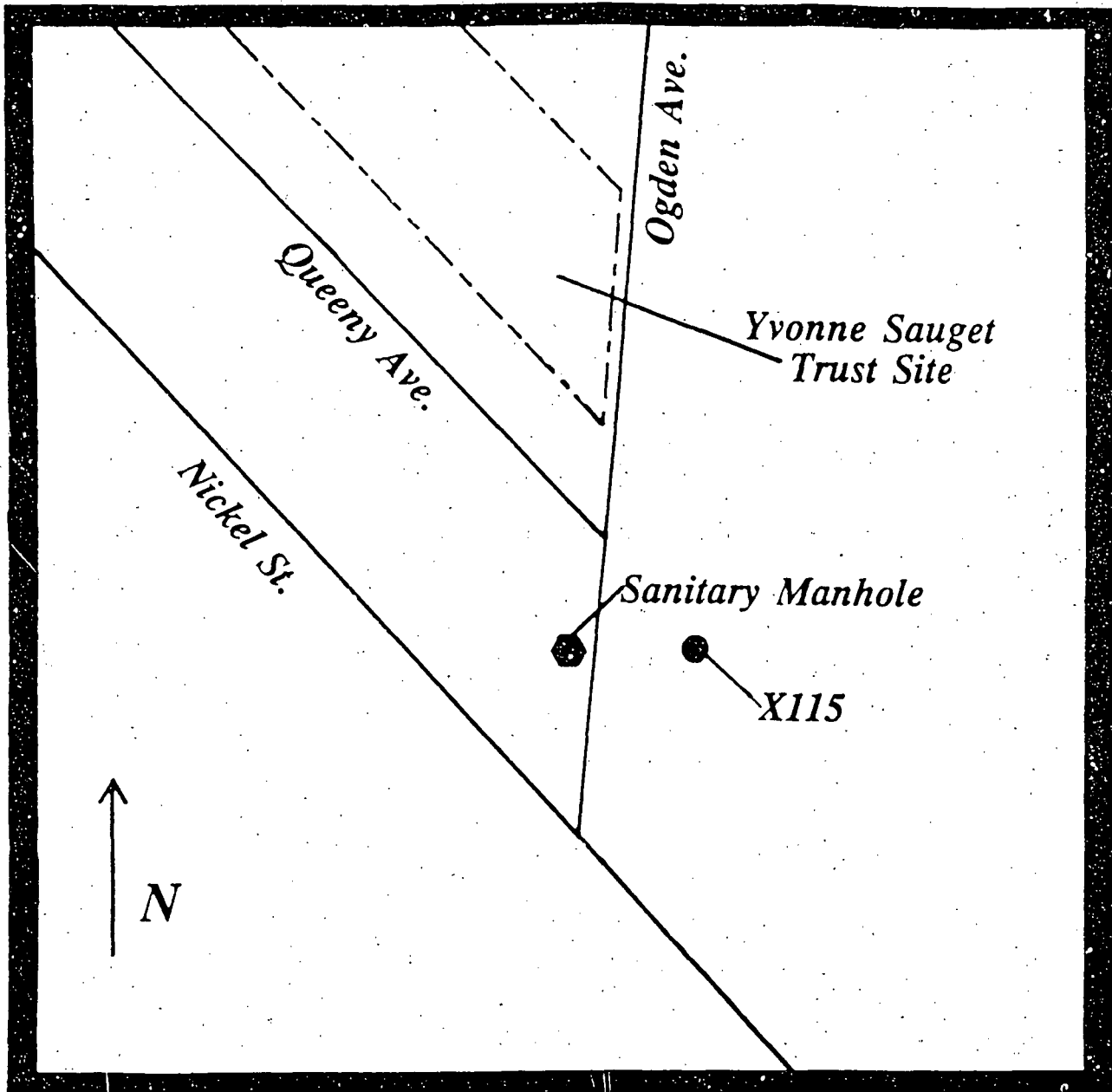
## SOIL SAMPLE MAP

Not to Scale

Yvonne Sauguet (Trust) Site ————  
Village of Sauguet Mini Park ————

Figure 3-1

9 6 0 5 9 0 0 1 6 8 6



# YVONNE SAUGET (TRUST)

## BACKGROUND SOIL SAMPLE MAP

Not to Scale

Yvonne Sauget (Trust) Site — — — — —

Figure 3-2

### 3.4 SOIL SEDIMENT SAMPLING

On December 8 and 9, 1992, Illinois Environmental Protection Agency (IEPA) personnel (with the assistance of the drill rig team) collected a total of sixteen soil/sediment samples (see Figures 3-1 and 3-2 for all sampling locations) on site and in the proximity of the site within the areas of suspected contamination. The main objective of these soil/sediment samples was to determine if any USEPA Target Compound List (TCL) contaminants are present at the site or at potential targets of concern. (The Target Compound List is provided in Appendix C of this report.) The following table details individual samples with their locations, depths and physical appearances. (Refer to the analytical data in Appendix I for detection limits associated with each sample point).

Table 3-1 Soil Sample Descriptions

X101	10"-15"	Moist, dark grey clay	East of MTS, Inc.'s main building
X102	18"-24"	1st 12": moist dark grey-black clay; 2nd 12": black tan clay	29' NE of park's SW fence & 115' NW of NW fence
X103	12.5'-17.5'	Wet dark grey to black coarse sand	39.5'W of NE fence & 53'7" S of NW fence
X104	18"-24"	1st 12": light tan sandy clay; 12"-24" dark grey to black silty clay with concrete, brick, debris and gravel	8'10" SSE of NW fence, 11' SW of NE fence

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X105	18"	Moist dark grey to black silty clay with small cinders	Residential backyard; 1453 Queeny; 20'9" SW of park's SW fence, 9'8" E of the most E corner of trailer home at 1451 Queeny
X106	12.5'-15'	Very, wet black fill sand, gravel, asphalt and wood	Center of park; 64'4" E of SW fence, 111' 6" NW of most NE corner park pavilion
X107	18"-24"	Moist tan to black mottled silty clay	Directly beneath W feet of power pole along park's SW fence; 6.5' SE of NW leg & 3.5' NE of SW leg
X108	10'-12.5'	Dark grey clay	11'4" N & 71' NW of electrical pole located in the SE corner of the park
X109	18"	Moist grey to black silty clay w/some cinders	Residential backyard: (1457 &) 1459 Queeny; 20'5" SW of SW park fence, 15'7" SE of most E corner of residential workshop(old garage)
X110	12"-18"	Tan friable silty clay	54'9" E of SW park fence, 18'2" S of most southern corner of park pavilion
X111	18"-24"	Moist tan to black mottled silty clay	Refer to X107

X112	4"-8"	Moist dark grey	S of ball diamond & E of park; 184'2" W of water main standpipe, 75' N of sewer main
X113	12"-18"	Light brown to tan clay, somewhat dry	Extreme S corner of park; 13.5' N of most S corner of the park, from most S fence post
X114	17.5'-20'	Dark grey medium sand to gravel	Center of park; 64'4" E of SW fence, 111'6" NW of most NE corner of park pavilion
X115	18"	Light tan silty sand	Vacant land E of Ogden 68' 4" E of sanitary sewer manhole between Nickel & Queen, 111'2" SSW of SW corner of tennis court
X116	18"-24"	Tan to dark grey silty clay	Residential backyard; 1463 Queeny; 8" NW of SE fence, 7' S of NE fence (runs parallel w/ SW park fence

Sample X101 was collected with the use of a shovel. The rest of the above soil/sediment samples were collected with stainless steel trowels for shallow samples and drill barrels and augers for the deep borings. Decontamination of the trowels was done at the IEPA's warehouse prior to and following the sampling portion of the SSI. Decontamination procedures include the cleaning of the equipment with liquid alconex and warm water, rinsing with tap water, rinsing

with a 50% distilled water mixture, rinsing with warm tap water and a final rinsing of distilled water. The trowels and shovel dried on paper towels and were wrapped in aluminum foil.

### 3.5 GROUNDWATER SAMPLING

There are no known groundwater wells in the vicinity of the Yvonne Sauget (Trust) site, and therefore, no groundwater samples were taken during the CERCLA site inspection for the Yvonne Sauget (Trust) site.

### 3.6 SURFACE WATER SAMPLING

Approximately one quarter of a mile west of the Yvonne Sauget (Trust) site is an intermittent stream known as Dead Creek. About one and a half miles further west is the Mississippi River. No surface water samples were collected during the December 8 and 9, 1992 CERCLA site inspection.

### 3.7 ANALYTICAL RESULTS

This section includes a summary of the analytical results of samples collected during the CERCLA site inspection portion of the Integrated Assessment conducted at the Yvonne Sauget (Trust) site in Sauget, Illinois. Chemical analysis of soil/sediment samples collected by IEPA personnel revealed quantified and estimated values of volatiles, semi-volatiles, pesticides, PCBs, heavy metals and common laboratory artifacts. A quality assurance/quality control review was conducted by the Quality Assurance Section of the Division of Laboratory Services at the IEPA. Please refer to Table 3-2 for the sample summary, chemical analysis are provided in Appendix I.

### TABLE 3-2 SUMMARY

SAMPLING POINT	SUMMARY															Soil Background	
	X101 12-9-92	X102 12-9-92	X103 12-9-92	X104 12-9-92	X105 12-9-92	X106 12-9-92	X107 12-9-92	X108 12-9-92	X109 12-9-92	X110 12-9-92	X111 12-9-92	X112 12-9-92	X113 12-9-92	X114 12-9-92	X115 12-9-92	X116 12-9-92	
VOLATILES																	
Acetone	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	PPB	
2-Butanone (MEK)	100 J	40 J	180 J	---	---	180 J	---	380 J	---	180 J	---	---	230 J	410 J	130 J	---	
SEMIVOLATILES																	
3-Nitroaniline	1000 OR	1000 OR	800 OR	3800 OR	1000 OR	4400 OR	1000 OR	1100 OR	880 OR	810 OR	1100 OR	1100 OR	800 OR	4000 OR	810 OR	1000 OR	
4-Nitroaniline	1000 OR	1070 OR	800 OR	3600 OR	1000 OR	4400 OR	---	1100 OR	880 OR	810 OR	1100 OR	1100 OR	800 OR	4000 OR	810 OR	1000 OR	
Phenanthrene	---	---	---	300 J	---	470 J	---	100 J	80 J	---	---	---	---	---	---	---	
Fluoranthene	---	---	---	480 J	110 J	---	---	140 J	180 J	---	---	---	---	---	---	---	
Pyrene	---	---	---	820 J	110 J	870 J	---	130 J	140 J	---	---	---	---	480 J	---	---	
Butylbenzylphthalate	---	---	---	---	---	---	---	---	---	170 J	---	---	---	---	---	---	
Benzo(a)anthracene	---	---	---	---	---	---	---	---	78 J	---	---	---	---	---	---	---	
Chrysene	---	---	---	300 J	---	470 J	---	100 J	100 J	---	---	---	---	---	---	---	
Is(2-Ethylhexyl)phthalate	---	---	---	---	---	---	---	---	98 J	130 J	---	---	---	---	---	---	
Benzo(b)fluoranthene	---	---	---	---	---	---	---	---	200 J	---	---	---	---	---	---	---	
Benzo(k)fluoranthene	---	---	---	380 J	---	---	---	300 J	---	---	---	---	---	---	---	---	
Benzo(g,h,i)perylene	---	---	---	---	---	580 J	---	---	---	---	---	---	---	---	---	---	
PESTICIDES																	
Dieldrin	0.52 JP	---	7.30 J	210 J PJ	2.20 JP	---	1.30 JP	3.80 JP	---	---	7.30 JP	---	---	---	---	6.50 JP	
4,4'-DDE	2.0 JP	---	23.0 PJ	360 J POJ	12.0 J	---	6.20 J	---	28 J	---	1.30 JP	1.30 JP	1.80 JP	---	---	38.0 PJ	
Endrin	---	---	---	---	---	170 JD	---	---	---	---	---	---	---	---	---	---	
Endosulfan II	---	---	12.0 P	240 J PO	7.80 P	---	---	2.20 JP	8.10 P	---	4.10 JP	---	---	---	---	15.0 P	
Endosulfan sulfate	---	---	38.0 P	---	---	---	---	---	---	---	---	---	---	---	---	---	
4,4'-DDT	8.8 PJ	4.80 PJ	9.30 PJ	840 J POJ	12.0 PJ	38 J JD	8.70 PJ	7.0 PJ	37.0 PJ	2.30 JP	11.0 PJ	2.20 JP	---	18.0 JD	---	70.0 PJ	
Endrin Ketone	---	---	4.80 PJ	---	---	---	---	---	8.80 PJ	---	---	---	---	---	---	---	
Endrin aldehyde	11.0	---	---	---	13.0 P	---	7.70 P	---	---	---	---	2.0 JP	---	---	---	---	
alpha-Chlordane	---	---	---	---	---	28.0 D	---	---	---	---	---	---	---	---	---	---	
gamma-Chlordane	0.32 JP	---	0.34 JP	---	0.44 JP	22.0 JPO	0.24 JP	---	0.28 JP	---	---	---	---	6.80 JPO	---	0.48 JP	
Aroclor-1018	---	---	---	1200.0 D	---	---	---	---	---	---	---	---	---	---	---	---	
Aroclor-1221	---	---	---	310.0 JPO	---	---	---	---	---	---	---	---	---	---	---	---	
Aroclor-1242	---	---	300 P	---	---	340 J JPO	---	420 J	50.0 P	37.0 JP	---	---	---	---	---	38.0 JP	
Aroclor-1254	30.0 JP	11.0 JP	380 P	---	130 P	380 J JPO	34.0 JP	280 P	200 P	35.0 P	---	21.0 JP	6.80 J	340 J PO	---	220 P	
Aroclor-1260	83.0	28.0 J	540 P	4000.0 POC	130 P	440 J JD	72.0 P	110.0 P	180 P	27.0 JP	77.0 P	34.0 J	6.40 J	380 J JPO	---	300 P	
INORGANICS																	
Aluminum	18500.0	14470.0	2640.0	8400.0	18500.0	8130.0	21730.0	---	18800.0	10500.0	21300.0	20300.0	12400.0	3540.8	8570.0	18800.0	
Arsenic	8.80 J	7.80 J	3.80 J	8.70 J	10.40 J	8.10 J	9.20 J	---	7.70 J	4.70 J	8.80 J	7.30 J	4.50 J	1.30 J	6.80 J	8.70 J	
Barium	226.0	208.0	70.40	157.0	247.0	158.0	287.0	---	280.0	83.30	258.0	228.0	83.30	84.40	185.0	231.0	
Beryllium	1.10 B	1.10 B	0.250 B	0.80 B	1.30	0.82 B	1.30	---	1.30	0.80 B	1.30	1.30	0.87 B	0.25 B	0.48 B	1.20 B	
Cadmium	2.10	1.40	---	1.20	0.820	1.30	1.30	---	6.30	---	2.30	2.80	---	---	---	2.40	
Calcium	7220.0	7180.0	18300.0	56800.0	13000.0	38600.0	17400.0	---	8710.0	5330.0	18400.0	13700.0	5090.0	24300.0	16400.0	8140.0	
Chromium	21.40	18.20	13.60	79.30	23.0	13.80	28.80	---	28.80	15.0	23.50	25.40	15.20	7.80	10.50	21.40	
Cobalt	9.80 B	11.40 B	3.40 B	7.80 B	11.20	5.80 B	10.70	---	10.40	7.80 B	13.80	10.80	8.0	2.80 B	4.80	11.20 B	
Copper	41.80	46.20	21.60	53.90	28.80	23.80	43.80	---	85.0	14.0	45.30	75.70	12.80	7.80	9.80	38.30	
Iron	23300.0	22100.0	13700.0	17400.0	24500.0	13800.0	26200.0	---	24300.0	15800.0	26700.0	25800.0	15000.0	6380.0	11500.0	25300.0	
Lead	56.30	30.40	30.8	228.0	28.40	58.0	85.80	---	138.20 J	10.0	81.1	88.10	10.80	16.13	8.50	81.40	
Magnesium	5290.0	5440.0	2610.0	8050.0	8840.0	3870.0	7120.0	---	5250.0	4270.0	7180.0	8390.0	3840.0	3380.0	8880.0	5380.0	
Manganese	474.0 J	818.0 J	142.0 J	328.0 J	878.0 J	142.0 J	725.0 J	---	558.0 J	485.0 J	880.0 J	522.0 J	480.0 J	82.0 J	278.0 J	518.0 J	
Mercury	0.07 B	0.10 B	0.08 B	0.884 B	0.04 B	0.07 B	0.07 B	---	0.18	0.07 B	0.08 B	0.08 B	0.03 B	0.02 B	---	0.07 B	
Nickel	29.50	28.80	15.0	21.80	30.0	15.80	30.70	---	28.90	18.40	40.0	31.80	17.20	8.50	15.70	25.30	
Potassium	3300.0	2680.0	502.0 B	1260.0	3560.0	2180.0	4000.0	---	3430.0	283.0	3680.0	3810.0	822.0	833.0 B	1470.0	2770.0	
Selenium	0.42 BJ	0.22 BJ	---	0.24 BJ	0.15 BJ	0.71 BJ	0.18 BJ	---	0.21 BJ	---	0.18 BJ	0.29 BJ	---	---	---	0.17 BJ	
Silver	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Thallium	0.280 B	0.24 B	---	0.15 BJ	0.27 B	---	0.25 B	---	0.16 BJ	---	0.25 B	0.21 B	---	---	---	0.21 B	
Vanadium	34.90	27.40	10.80	24.80	34.70	22.50	41.10	---	35.10	31.80	40.0	41.80	30.20	10.80	18.10	29.80	
Zinc	185.0	130.0	58.80	2110.0	118.0	142.0	300.0	---	2370.0	84.0	303.0	263.0	38.10	45.0	38.90	221.0	
Cyanide	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
TENTATIVELY IDENTIFIED COMPOUNDS																	
1-ETHYLDENE-1H-INDENE	---	---	---	---	---	---	---	---	---	170.0 JN	---	---	---	---	---	---	
2-CYCLOHEXEN-1-OL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	120.0 JN	---	

9 6 0 5 9 0 0 1 8 3 6

## APPENDIX I

## DATA QUALIFIERS

QUALIFIER	DEFINITION ORGANICS	DEFINITION INORGANICS
U	Compound was tested for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by two, to account for the fact that only half of the extract is recovered.	Analyte was analyzed for but not detected.
J	Estimated value. Used when estimating a concentration for tentatively identified compounds (TICS) where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria and the result is less than the sample quantitation limit but greater than zero. Used in data validation when the quality control data indicate that a value may not be accurate.	Estimated value. Used in data validation when the quality control data indicate that a value may not be accurate.
C	This flag applies to pesticide results where the identification is confirmed by GC/MS.	Method qualifier indicates analysis by the Manual Spectrophotometric method.
B	Analyte was found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.	The reported value is less than the CRDL but greater than the instrument detection limit (IDL).
D	Identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor as in the "E" flag, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values are flagged with the "D" flag.	Not used.
E	Identifies compounds whose concentrations exceed the calibration range for that specific analysis. All extracts containing compounds exceeding the calibration range must be diluted and analyzed again. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses must be reported on separate Forms I. The Form I for the diluted sample must have the "DL" suffix appended to the sample number.	The reported value is estimated because of the presence of interference.
A	This flag indicates that a TIC is a suspected aldol concentration product formed by the reaction of the solvents used to process the sample in the laboratory.	Method qualifier indicates analysis by Flame Atomic Absorption (AA).
M	Not used.	Duplicate injection (a QC parameter not met).

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9 6 0 5 9 0 0 1 8 3 8

N	Not used	Spiked sample (a QC parameter not met).
S	Not used.	The reported value was determined by the Method of Standard Additions (MSA).
W	Not used.	Post digestion spike for Furnace AA analysis (a QC parameter) is out of control limits of 85% to 115% recovery, while sample absorbance is less than 50% of spike absorbance.
.	Not used.	Duplicate analysis (a QC parameter not within control limits).
+	Not used.	Correlation coefficient for MSA (a QC parameter) is less than 0.995.
P	Not used.	Method qualifier indicates analysis by ICP (Inductively Coupled Plasma) Spectroscopy.
CV	Not used.	Method qualifier indicates analysis by Cold Vapor AA.
AV	Not used.	Method qualifier indicates analysis by Automated Cold Vapor AA.
AS	Not used.	Method qualifier indicates analysis by Semi-Automated Cold Spectrophotometry.
T	Not used.	Method qualifier indicates Titrimetric analysis.
NR	The analyte was not required to be analyzed.	The analyte was not required to be analyzed.
R	Rejected data. The QC parameters indicate that the data is not usable for any purpose.	Rejected data. The QC parameters indicate that the data is not usable for any purpose.

U.S. EPA - CLP  
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

X115

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: YVONNE SAUGET TRUST  
Lab Code: Case No.: SAS No.: SDG No.: -84-  
Matrix (Soil): Lab Sample ID: B218699-  
Level (Low/Med): Date Received: 12/10/92  
% Solids: -87.8-

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6570			P
7440-36-0	Antimony	12.9	U	N	P
7440-38-2	Arsenic	5.8		S,N	FM
7440-39-3	Barium	185			P
7440-41-7	Beryllium	0.48	B		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	16400			P
7440-47-3	Chromium	10.5			P
7440-48-4	Cobalt	4.8			P
7440-50-8	Copper	9.6			P
7439-89-6	Iron	11500			P
7439-92-1	Lead	8.5			FM
7439-95-4	Magnesium	6560			P
7439-96-5	Manganese	279		N	P
7439-97-6	Mercury	0.02	U		AV
7440-02-2	Nickel	15.7			P
7440-09-7	Potassium	1470			P
7782-49-2	Selenium	0.11	U	W,N	FM
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	387	U		P
7440-28-0	Thallium	0.11	U		FM
7440-62-2	Vanadium	19.1			P
7440-66-6	Zinc	38.9			P
	Cyanide	0.95	U		AS
					AS

Color Before: -Brown- Clarity Before: -Opaque- Texture: -Fine-  
Color After: -Colorless- Clarity After: -Clear- Artifacts: -  
Comments: -

96059001944

IEPA DIVISION of LABORATORIES  
QUALITY ASSURANCE SECTION

INORGANIC DATA VALIDATION  
CHECKLIST

Site: Yvonne Sauget Trust

Laboratory: IEPA Champaign

SDG: 84

Analytical Protocol: ILM01.0

Date: February 26, 1993

Reviewer: Chris Bridges

Reviewer Signature: *Chris Bridges*

I. PRELIMINARY REVIEW

Number Aqueous Samples: N/A Analytes:

Number Solid/Soil Samples: 15 Analytes: Trace Metals, Hg, and CN

	YES	NO	N/A
A. Chain-of-Custody(ies)--Present?	<u>X</u>	—	—
Signed?	<u>X</u>	—	—
Dated?	<u>X</u>	—	—
B. Cover Page--Present?	<u>X</u>	—	—
Do sample numbers on cover page agree with sample numbers on:			
(a) Chain-of-Custody?	<u>X</u>	—	—
(b) Form 1s?	<u>X</u>	—	—
C. Form 1 (Final Data)			
Are all Form 1s present and complete?	<u>X</u>	—	—
Are correct units indicated on Form 1s (ug/l-waters & mg/kg-soils)?	<u>X</u>	—	—
Are soil sample results corrected for percent solids (dry weight)?	<u>X</u>	—	—
Are sample results < IDL reported as the IDL (U)?	<u>X</u>	—	—

ACTIONS: NONE

II. HOLDING TIMES & PRESERVATION

Mercury (28 Days)	pH < 2	exceeded?	—	<u>X</u>	—
Cyanide (14 Days)	pH > 12	exceeded?	—	<u>X</u>	—
other Metals (6 months)	pH < 2	exceeded?	—	<u>X</u>	—

ACTIONS: NONE

### III. CALIBRATIONS

	YES	NO	N/A
A. Initial Calibration Procedures:			
Are acceptable 2 point calibrations present for: ICP?	<u>X</u>	—	—
Are acceptable 4 point calibrations present for: AA?	<u>X</u>	—	—
Correlation Coefficient > 0.995?	<u>X</u>	—	—
Cyanide?	<u>X</u>	—	—
Correlation Coefficient > 0.995?	<u>X</u>	—	—
Mid-Range standard distilled?	<u>X</u>	—	—
Are acceptable 4 point calibrations present for: Mercury?	<u>X</u>	—	—
Correlation Coefficient > 0.995?	<u>X</u>	—	—
Are acceptable calibrations present for other parameters?	—	—	<u>X</u>

ACTIONS: NONE

#### B. Initial and Continuing Calibration Verification:

All necessary Form 2s present and complete?	<u>X</u>	—	—
ICVs and CCVs analyzed at the correct frequency?	—	<u>X</u>	—
Are results reported in the correct units (ug/l)?	<u>X</u>	—	—
All calibration verification % Recoveries meet criteria?	<u>X</u>	—	—

ACTIONS: (Analyte, % Recovery, Sample(s) affected and Qualifications)

Eleven samples were analyzed between calibration verifications during the analysis of cyanide however, no data is affected.

#### IV. BLANKS:

All necessary Form 3s present and complete?

YES	NO	N/A
<u>X</u>	<u>      </u>	<u>      </u>

### A. Initial and Continuing Calibration Blanks

Analyzed at correct frequency?

X

Are results reported in the correct units (ug/l)?

X                                                                                    

Were all transcription errors corrected?

X                                                                                    

All ICBs and CCBs meet no contamination criteria?

**X**

ACTIONS: (ICB or CCB/IDL) Sample(s) affected, qualifications

Pb (-1.4, -2.2/ 1.0) X109 is qualified as estimated (J)

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

YES NO N/A

**X**

**X**

X

Y

$$\frac{A}{B} = \frac{C}{D} = \frac{E}{F}$$

\_\_\_\_\_

X

Na (212/106.0) X101, X102, X103, X104, X105, X106, X107, X109, X110, X111, X112, X113, X114

Contamination was noted in Ca, Pb, and Zn however no data is affected.

Contamination was noted in Ca, Pb, and Zn however no data is affected.

## V. ICP INTERFERENCE CHECK SAMPLE:

	YES	NO	N/A
Form 4 present and complete?	<u>X</u>	—	—
Were ICS ran at the correct frequency?	<u>X</u>	—	—
Were all transcription errors corrected?	—	—	<u>X</u>
All % Recoveries of ICSAB Solution +/- 20 % of True Value?	<u>X</u>	—	—
For elements not present in ICSA, is the absolute value of the ICSA result greater than the IDL?	—	<u>X</u>	—

ACTIONS: (Analyte, % Recovery, Sample(s) affected, Qualifications)

NONE

## VI. SPIKE SAMPLE RECOVERY:

Form 5 present and complete for:	each 20 samples?	<u>X</u>	—	—
	each matrix type?	—	—	<u>X</u>
Were all transcription errors corrected?		—	—	<u>X</u>
Were field blanks used for spike sample analysis?		—	<u>X</u>	—
Were all Matrix Spike % Recoveries within criteria?		—	<u>X</u>	—

ACTIONS: (Analyte, % Recovery, Sample(s) affected, Qualifications)

As (66.3 %R) X101, X102, X103, X104, X105, X106, X107, X109, X110, X111, X112, X113, X114  
X115, X116 are qualified as estimated (J)

Sb (17.0%R) X101, X102, X103, X104, X105, X106, X107, X109, X110, X111, X112, X113, X114  
X115, X116 are qualified as unusable (R)

Mn (142.6% R) X101, X102, X103, X104, X105, X106, X107, X109, X110, X111, X112, X113, X114  
X115, X116 are qualified as estimated (J)

Se (40.7% R) See section IX (Furnace Atomic Absorption QC) of checklist

Pb (17.0% R) Sample result is greater than 4X the spike added so no control limits apply.

## VII. DUPLICATE SAMPLE ANALYSIS:

	YES	NO	N/A
Form 6 present and complete for:	<u>X</u>	—	—
each 20 samples?	—	—	<u>X</u>
each matrix type?	—	—	<u>X</u>
Were all transcription errors corrected?	—	<u>X</u>	—
Were field blanks used for duplicate analysis?	—	—	<u>X</u>
For both AA and ICP when both are used for the same analyte?	<u>X</u>	—	—
Were all duplicate analyses differences within criteria?	—	—	—

ACTIONS: (Element, Differences, Sample(s) affected, Qualifications)

NONE

## VIII. LABORATORY CONTROL SAMPLE:

(Note: LCS not required for aqueous Hg.)

Form 7 Present and Complete?	<u>X</u>	—	—
Was one LCS prepared and analyzed for:			
every 20 or fewer water samples?	—	—	<u>X</u>
every digestion batch of water samples?	—	—	<u>X</u>
every 20 or fewer solid samples?	<u>X</u>	—	—
every digestion batch of solid samples?	<u>X</u>	—	—
Were all transcription errors corrected?	—	—	<u>X</u>
Were all of the Aqueous LCS % Recoveries within criteria?	—	—	<u>X</u>
Were all of the Solid LCS % Recoveries within criteria?	<u>X</u>	—	—

ACTIONS: (Element, % Recovery, Sample(s) affected, Qualifications)

NONE

## IX. FURNACE ATOMIC ABSORPTION (AA) QC:

	YES	NO	N/A
Did the laboratory utilize duplicate injections for all non-MSA analyses?	<u>X</u>	<u>  </u>	<u>  </u>
Does the GFAA flow chart appear to have been followed for all analyses?	<u>  </u>	<u>X</u>	<u>  </u>
Did the laboratory properly flag the GFAA results on the Form 1s?	<u>X</u>	<u>  </u>	<u>  </u>

ACTIONS: (Analyte, Sample(s) affected, Qualifications)

Selenium's matrix spike sample (X!01S) should have been analyzed by MSA and was not. All sample results for selenium are qualified as estimated (J)

Any results flagged 'W' by the laboratory are qualified as estimated (J)

## X. ICP SERIAL DILUTION:

Form 9 present and complete?	<u>X</u>	<u>  </u>	<u>  </u>
Was Serial Dilution analysis performed for:			
each 20 or fewer samples?	<u>X</u>	<u>  </u>	<u>  </u>
each matrix type?	<u>  </u>	<u>  </u>	<u>X</u>
Were all transcription errors corrected?	<u>X</u>	<u>  </u>	<u>  </u>
Were all serial dilution results within criteria?	<u>X</u>	<u>  </u>	<u>  </u>
Were field blanks used for serial dilution analysis?	<u>  </u>	<u>X</u>	<u>  </u>

ACTIONS: (Analyte, Sample(s) affected, Qualifications)

NONE

# **XI. RAW DATA:**

	YES	NO	N/A
Digestion Log for flame AA/ICP present?	<u>X</u>	—	—
Digestion Log for furnace AA present?	<u>X</u>	—	—
Digestion Log for mercury present?	<u>X</u>	—	—
Digestion Log for cyanide present?	<u>X</u>	—	—
Inventory Sheet present?	<u>X</u>	—	—
Weights, dilutions, and volumes used to obtain values present?	<u>X</u>	—	—
Percent solids calculation present for soils (sediments)?	<u>X</u>	—	—
Are preparation dates present on Digestion Logs?	<u>X</u>	—	—
Are standards preparation logs present and dated?	<u>X</u>	—	—
Measurement read out records present for:			
ICP?	<u>X</u>	—	—
Flame AA?	—	—	<u>X</u>
Furnace AA?	<u>X</u>	—	—
Mercury?	<u>X</u>	—	—
Cyanide?	<u>X</u>	—	—
other Inorganics?	—	—	<u>X</u>
Are all results with the ICP linear ranges?	<u>X</u>	—	—
Are all raw data to support all sample analyses an QC operations present?	<u>X</u>	—	—
Legible?	<u>X</u>	—	—
Properly labeled?	<u>X</u>	—	—

ACTIONS:

NONE

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